

## Additional records of Iberian parasitic insect fungi: Laboulbeniales (Ascomycotina) and *Aegeritella* (Deuteromycotina)

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**Key words:** *Aegeritella*, *Herpomyces*, insect fungi, *Rickia*, Spain.

**Abstract.** The genus *Herpomyces* Thaxter, with *H. periplanetae* Thaxter and *H. ectobiae* Thaxter, is added to the Iberian Laboulbeniales. The ant *Myrmica speciosus* Bondr. is a new host for *Rickia wasmannii* Cava. The ants *Lasius umbratus* (Nyl.) and *Lasius distinguendus* Emery are new hosts for Deuteromycotina *Aegeritella tuberculata* Bal. et Wis.

**Resumen.** Citas adicionales de hongos parásitos ibéricos: Laboulbeniales (Ascomycotina) y *Aegeritella* (Deuteromycotina). Añadimos el género *Herpomyces* Thaxter, con las especies *H. periplanetae* Thaxter y *H. ectobiae* Thaxter al catálogo de Laboulbeniales ibéricas. Otros datos, referentes a *Rickia wasmannii* Cava, incluyen un huésped inédito, *Myrmica speciosus* Bondr. Las hormigas *Lasius umbratus* (Nyl.) y *Lasius distinguendus* Emery han sido encontradas parasitadas por *Aegeritella tuberculata* Bal. et Wis. (Deuteromycotina).

### Introduction

A short visit to the University of Alicante provided the opportunity to examine some preserved insects, in search of Laboulbeniales. Just one cockroach could be inspected and we were lucky enough to find it parasitized with a Laboulbenial. This, in turn, led to further searching on any available cockroach, and the finding of another species, also unknown for the Iberian peninsula. Some more records of Laboulbeniales from the last three years are added to this note. We report also two findings of *Aegeritella*, a poorly known genus of epizootic Deuteromycotina on ants.

### Ascomycotina

O. Laboulbeniales. SubO. Herpomycetinae. Fam. Herpomycetaceae.

*Herpomyces periplanetae* Thaxter, 1902 (Fig. 1a,b).

On *Periplaneta americana* (L.) (Blattaria: Blattidae) from Alicante (Alicante), 20-I-1985, E. Seva leg.; on *Blatta orientalis* (L.) (Blattaria: Blattidae) from Sarrià (Barcelona), 29-VI-1977. The genus is not listed in the previous works concerning Iberian Laboulbeniales (Balazuc et al. 1982, 1983, Santamaria 1985); it occurs only on *Blattaria*, and the distribution of *H. periplanetae* follows the one of its host, that is cosmopolitan (Thaxter 1908).

*Herpomyces ectobiae* Thaxter 1902 (Fig. 1c).

On *Blattella germanica* (L.) (Blattaria: Blattellidae), from Girona province, without locality; M.D. Llenas leg. Same comments as above.

O. Laboulbeniales. SubO. Laboulbeniineae. Fam. Laboulbeniaceae

*Rickia wasmannii* Cava, 1899 (Fig. 1d).

On *Myrmica sabuleti* Meinert (Hymenoptera: Formicidae) from Organyà (Lleida), 2-X-1983, Espadaler leg; from Sta. Maria de Finestres (Girona), 17-X-1985, Suñer leg; on *Myrmica speciosus* Bondr. from Quart (Girona), 7-VIII-1986, Suñer leg. This last species is a new host to the fungus.

### Deuteromycotina

*Aegeritella tuberculata* Bal. et Wis. 1982.

On *Lasius umbratus* (Nyl.) (Hymenoptera: Formicidae) from Sant Julià del Corb (Girona), 13-VIII-1986, Suñer leg. and *Lasius distinguendus* Emery from Sta. Fe, Montseny (Barcelona), 2-VI-1986, Camps leg. Both ant species are new hosts to the fungus.

*Aegeritella* fungi have been recently found in the Iberian peninsula. The data now reported represent new hosts for the fungus, previously known from three localities in Poland (Balazi & Wisniewski, 1982) and one in Spain (Espadaler & Wisniewski, 1987). Thirty-three out of thirty-eight (86 %) ants in the sample of *Lasius umbratus* were found to be infected. This is the higher percentage ever recorded of *Aegeritella* on ants. The distribution of bulbils on the body of workers showed a similar trend as the one reported for *Formica pressilabris* (Nyl.) (Espadaler & Wisniewski, 1987): the bulbils are more abundant at the rear of the body (Fig. 2, Table 1); the aspect of the bulbils varies from a yellowish, flat plate, difficult to see since the ants are also yellowish, to a dark, mountain-like structure (Fig. 3); it would be highly interesting to follow the ontogeny of developing bulbils on alive material, to check if this distal distribution is due to the auto and allogrooming of the ants.

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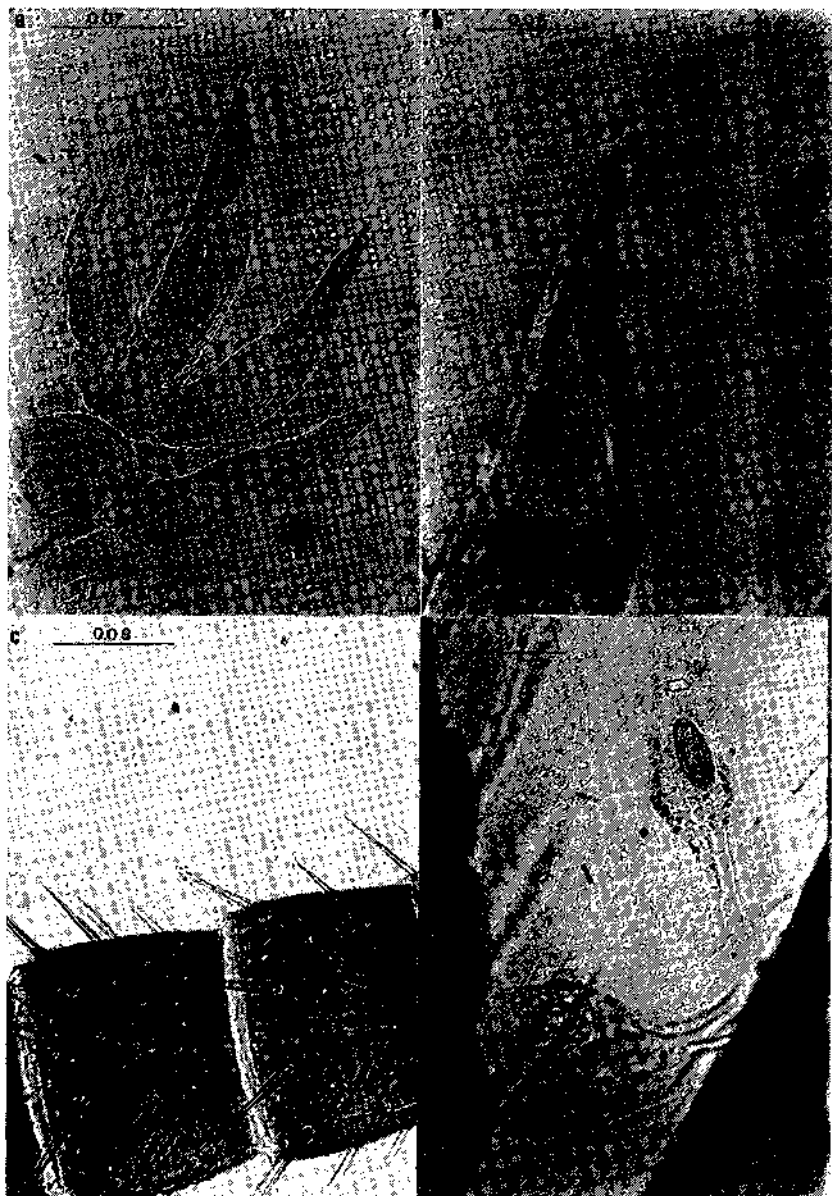


Figure 1. a) *Herpomyces periplanetae* Thaxter, on *Periplaneta americana* (L.). Individuals are usually found in groups, growing from a common foot (F). b) *Herpomyces periplanetae*, closer view; the last perithecial cell (PC) grows typically finger-like; see also the opening of the perithecium (O). c) Three individuals of *Herpomyces ectobiae* Thaxter on antennal segment of *Blatella germanica* (L.). d) Individuals of *Rickia wasmannii* Cavara from *Myrmica sabuleti* Meinert. All scales in mm.



Figure 2. Cumulative number of bulbils of *A. tuberculata* found on head (1), thorax (2), gaster (3), first leg (4), second leg (5), and third leg (6) in 33 workers of *Lasius umbratus*.

Table 1. Number and distribution of *Aegeritella tuberculata* Bal. et Wis. bulbils among workers (n = 33) of *Lasius umbratus* (Nyl.) from Sant Julià del Corb (Girona).

	Mean	Range	Position
Head	0.25	(0 - 1)	back of head
Thorax	1.33	(0 - 5)	pronotum/propodeum
Gaster	1.66	(0 - 6)	first gaster tergite
1st leg	0.55	(0 - 3)	femur, tibia
2nd leg	1.02	(0 - 3)	femur, tibia
3rd leg	1.63	(0 - 5)	femur, tibia
Total	6.44	(0 - 18)	

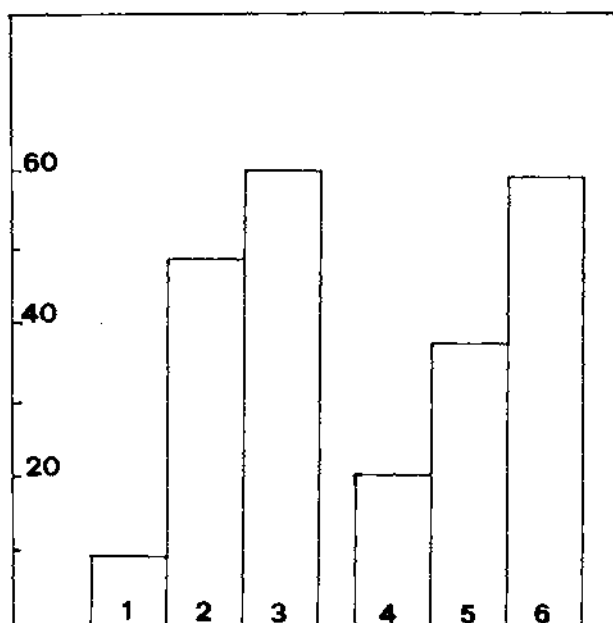


Figure 3. Portion of a leg of *Lasius umbratus* with a bulbil of *Aegeritella tuberculata* Bal. et Wis.; aleuriophores (A), with small aleuriospores extrude from the growing thallus; scale in mm.

## References

- Balazuc, J., Espadaler, X. & Girbal, J. 1982. Laboulbenials (Ascomycets) ibèrics. Collect. Bot. 13:403-421.
- Balazuc, J., Espadaler, X. & Girbal, J. 1983. Laboulbenials (Ascomycets) ibèrics. II. Noves aportacions. Collect. Bot. 14:39-42.
- Balazy, J. & Wisniewski, J. 1982. A new species of epizoic fungus on ants-*Aegeritella tuberculata* sp. nov. Bull. Acad. Pol. Sci., Ser. Biol. 30:85-88.
- Espadaler, X. & Wisniewski, J. 1987. *Aegeritella superficialis* Bal. et Wis. and *A. tuberculata* Bal. et Wis. (Deuteromycetes), epizoic fungi on two *Formica* (Hymenoptera: Formicidae) species in the Iberian peninsula. Butll. Inst. Cat. Hist. Nat. 54:31-35.
- Santamaria, S. 1985. Contribució al coneixement dels laboulbenials (Ascomycets) ibèrics. Tesina de Llicenciatura, Universitat Autònoma de Barcelona. 272 pp.
- Thaxter, R. 1908. Contribution toward a monograph of the Laboulbeniaceae. Part II. Mem. Amer. Acad. Arts Sci. 13:219-469.

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